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NOTICE OF ALLOWANCE AND FEE(S) DUE

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7590

09/11/2008

SUGHRUE-265550 2100 PENNSYLVANIA AVE. NW WASHINGTON, DC 20037-3213 EXAMINER

MOSS, KERI A

ART UNIT PAPER NUMBER

1797 DATE MAILED: 09/11/2008

1	APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
•	10/092,591	03/08/2002	Shinji Yamamori	Q68895	1085

TITLE OF INVENTION: SENSOR FOR MEASURING CARBON DIOXIDE IN RESPIRATORY GAS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	12/11/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

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IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE

Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

or <u>Fax</u> (571)-273-2885

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						(Signature)	
						(Date)	
APPLICATION NO.	FILING DATE		FIRST NAMED INVENTO	R	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/092,591	03/08/2002	•	Shinji Yamamori		Q68895	1085	
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nonprovisional	NO	\$1440	\$300	\$0	\$1740	12/11/2008	
EXAM	MINER	ART UNIT	CLASS-SUBCLASS	7			
MOSS,	KERI A	1797	422-083000	-			
 Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required. 			(I) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to				
	less an assignee is ident th in 37 CFR 3.11. Comp		THE PATENT (print or ty data will appear on the off a substitute for filing an (B) RESIDENCE: (CIT	patent. If an assigne assignment.		document has been filed for	
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10/092,591 03/08/2002		Shinji Yamamori	Q68895 1085		
65565 75	590 09/11/2008		EXAM	INER	
SUGHRUE-265550			MOSS, KERI A		
2100 PENNSYLV		ART UNIT	PAPER NUMBER		
WASHINGTON, DC 20037-3213			1797	,	
			DATE MAILED: 09/11/2008		

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 381 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 381 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 (571)-272-4200.

	Application No.	Applicant(s)			
	10/092,591	YAMAMORI ET AL.			
Notice of Allowability	Examiner	Art Unit			
	KERI A. MOSS	1797			
The MAILING DATE of this communication app All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85' NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT R of the Office or upon petition by the applicant. See 37 CFR 1.313	ears on the cover sheet with (OR REMAINS) CLOSED in) or other appropriate commu- IGHTS. This application is so 3 and MPEP 1308.	h the correspondence address this application. If not included nication will be mailed in due course. THIS			
1. This communication is responsive to After Final Amendme	<u>ent filed 7/24/08</u> .				
2. The allowed claim(s) is/are <u>1,4,5,9,10,13-15,17,18,20,27,2</u>	<u>29-31 and 33-38</u> .				
 3. Acknowledgment is made of a claim for foreign priority unal All b) Some* c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 	e been received.				
3. ☐ Copies of the certified copies of the priority do	• •				
International Bureau (PCT Rule 17.2(a)).		The first of the f			
* Certified copies not received:					
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.					
4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.					
5. CORRECTED DRAWINGS (as "replacement sheets") must	st be submitted.				
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached					
1) 🔲 hereto or 2) 🔲 to Paper No./Mail Date					
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date					
ldentifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).					
6. DEPOSIT OF and/or INFORMATION about the depo- attached Examiner's comment regarding REQUIREMENT					
Attachment(s) 1. ☑ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)	6. ☐ Interview Su Paper No./N	ormal Patent Application Immary (PTO-413), Mail Date			
3 Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date	1. K Examiners /	Amendment/Comment			
Examiner's Comment Regarding Requirement for Deposit of Biological Material	8. ⊠ Examiner's \$	Statement of Reasons for Allowance			
/Maureen M. Wallenhorst/ Primary Examiner, Art Unit 1797					

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney David Emery on August 28, 2008.

The application has been amended as follows:

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

- 1. (currently amended): A sensor adapted to measure the concentration or presence/absence of carbon dioxide in respiratory gas from a living body, comprising:
 - a light-emitting light element operable to emit light;
- a light-receiving element adapted to receive the light emitted from the light-receiving element:
- a support member supporting the light-emitting element and the light-receiving element such that they are opposed to each other on a single optical axis, the support member having a size adapted to contact a part between nostrils and a mouth of the living body; and

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a respiratory flow path formed in the support member so as to cross over the optical axis and adapted to allow the respiratory gas to pass therethrough when the support member is located between the nostrils and the mouth, and

ear straps adapted to be hooked around ears of the living body for holding the supporting member below the postrils.

2.-3 (canceled).

- 4. (currently amended): The sensor as claimed in elaim 3 claim 1, wherein the ear straps include at least one of a first lead wire for supplying power to the light-emitting element and a second lead wire for outputting a signal detected by the light-receiving element.
- 5. (previously presented): The sensor as claimed in claim 1, further comprising an engagement member provided as a part of the support member and adapted to be engaged with a tubular member for supplying oxygen to the nostrils.

6. - 8. (canceled).

9. (previously presented): The sensor as claimed in claim 1, further comprising a mouth-side guide member attached on the support member and adapted to guide respiratory gas from the mouth to the respiratory flow path.

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10. (currently amended): A sensor adapted to measure a concentration or presence/absence of carbon dioxide in respiratory gas from a living body, comprising:

a light-emitting element operable to emit light;

a light-receiving element adapted to receive the light emitted from the light-emitting

element;

an oxygen mask adapted to cover a part of a face of the living body to supply oxygen to

the living body;

a support member supporting the light-emitting element and the light-receiving element

such that they are opposed to each other on a single optical axis, the support member being

disposed on an interior surface of the oxygen mask and having a size adapted to contact a part

between nostrils and a mouth of the living body; and

a respiratory flow path formed in the support member so as to cross over the optical axis

and so as to communicate with an interior of the oxygen mask, the respiratory flow path being

adapted to allow the respiratory gas to pass therethrough when the oxygen mask covers the part

of the face.

11. -12. (canceled).

13. (currently amended): A sensor adapted to measure a concentration or

presence/absence of carbon dioxide in respiratory gas from a living body, comprising:

a light-emitting element operable to emit light;

a light-receiving element adapted to receive the light emitted from the light-emitting element;

an airway case having a size adapted to contact a part between nostrils and a mouth of the living body, and having a pair of openings opposing to each other;

a respiratory flow path formed in the airway case so as to extend between the openings, and adapted to allow the respiratory gas to pass therethrough when the airway case is located between the nostrils and the mouth;

a pair of transparent thin films respectively sealing the openings; and

a pair of supporting members respectively supporting the light-emitting element and the light-receiving element such that they are opposed to each other on a single optical axis through the openings.

- 14. (previously presented): The sensor as claimed in claim 13, wherein the thin films are anti-fogging films.
- 15. (previously presented): The sensor as claimed in claim 13, wherein said supporting members are removably engaged with the light emitting element and the light-receiving element respectively.
 - 16. (canceled).

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17. (previously presented): The sensor as claimed in claim 13, further comprising a mouth-side guide member attached on the airway case and adapted to guide respiratory gas from

18. (previously presented): The sensor as claimed in claim 9, wherein the mouth-side guide member is removably engaged with the support member.

19. (canceled).

the mouth to the respiratory flow path.

20. (previously presented): The sensor as claimed in claim 17, wherein the mouth-side guide member is removably engaged with the airway case.

21. - 26. (canceled).

27. (previously presented): The sensor as claimed in claim 37, wherein the nasal-side guide member has a base portion at which the nasal prongs are integrated so as to form a Y-shaped respiratory flow path.

28. (canceled).

29. (previously presented): The sensor as claimed in claim 34, wherein the nasal-side guide member has a base portion at which the nasal prongs are integrated so as to form a Y-shaped respiratory flow path.

- 30. (previously presented): The sensor as claimed in claim 9, wherein the mouth-side guide member having an opening adapted to cover at least a part of the mouth while extending in a direction that is substantially parallel with at face of the living body.
- 31. (previously presented): The sensor as claimed in claim 17, wherein the mouth-side guide member having an opening adapted to cover at least a part of the mouth while extending in a direction that is substantially parallel with a face of the living body.
 - 32. (canceled).
- 33. (previously presented): The sensor as claimed in claim 1, further comprising a nasal-side guide

member adapted to introduce the respiratory gas from the nostrils to the respiratory flow path.

34. (previously presented): The sensor as claimed in claim 33, wherein the nasal-side guide member has two nasal prongs adapted to be inserted into the nostrils when the support member is located between the nostrils and the mouth.

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35. (previously presented): The sensor as claimed in claim 33, wherein the nasal-side guide member comprises a funnel-shaped member.

36. (previously presented): The sensor as claimed in claim 13, further comprising a nasal-side guide member adapted to introduce the respiratory gas from the nostrils to the respiratory flow path.

- 37. (previously presented): The sensor as claimed in claim 36, wherein the nasal-side guide member has two nasal prongs adapted to be inserted into the nostrils when the support member is located between the nostrils and the mouth.
- 38. (previously presented): The sensor as claimed in claim 36, wherein the nasal-side guide member comprises a funnel-shaped member.
 - 39.-43. (canceled).
- 2. The following is an examiner's statement of reasons for allowance: The closest prior art is the airway adapter in the O'Neil et al. patent (USP 6,044,843), the gas analyzer in the Braig et al. patent (USP 5,282,473) and the airway adapter and carbon dioxide detector Isaacson et al. (USP 6,190,329) which teach the light-emitting light element, the light-receiving element, the support member and the respiratory flow path

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as claimed by applicant. O'Neil et al. does not teach or suggest ear straps adapted to be hooked around ears of the living body for holding the supporting member below the nostrils. The language "having a size adapted to contact a part between the nostrils and a mouth of the living body" and "when the support member is located between the nostrils and the mouth" distinguishes this claim from the prior art and the examiner has interpreted this language as having patentable weight. The examiner interprets this language to mean that the sensor and the support member must be located between the mouth and the nostrils of the living body.

3. Regarding claim 10, the closest prior art is the airway adapter in the O'Neil et al. patent (USP 6,044,843), the gas analyzer in the Braig et al. patent (USP 5,282,473) and the airway adapter and carbon dioxide detector Isaacson et al. (USP 6,190,329) which teach a sensor comprising the light-emitting light element, the light-receiving element, the support member and the respiratory flow path as claimed by applicant. O'Neil et al. does not teach or suggest this sensor further comprising an oxygen mask adapted to cover a part of a face of the living body to supply oxygen to the living body; a support member supporting the light-emitting element and the light-receiving element such that they are opposed to each other on a single optical axis, the support member being disposed on an interior surface of the oxygen mask and having a size adapted to contact a part between nostrils and a mouth of the living body. The language "having a size adapted to contact a part between the nostrils and a mouth of the living body" and "when the support member is located between the nostrils and the mouth" distinguishes this claim from the prior art and the examiner has interpreted this language as having

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patentable weight. The examiner interprets this language to mean that the sensor and the support member must be located between the mouth and the nostrils of the living body.

4. Regarding claim 13, the prior art does not teach or suggest the O'Neil adapter, the Braig et al. analyzer, the Isaacson et al. detector as described in paragraphs 2 and 3 further comprising an airway case having a size adapted to contact a part between nostrils and a mouth of the living body and having a pair of openings opposing to each other; a respiratory flow path formed in the airway case so as to extend between the openings and adapted to allow the respiratory gas to pass therethrough when the airway case is located between the nostrils and the mouth; a pair of transparent thin films respectively sealing the openings; and a pair of supporting members respectively supporting the light-emitting and the light-receiving element such that they are opposed to each other on a single optical axis through the openings. The language "having a size adapted to contact a part between the nostrils and a mouth of the living body" and "when the airway case is located between the nostrils and the mouth" distinguishes this claim from the prior art and the examiner has interpreted this language as having patentable weight. The examiner interprets this language to mean that the sensor and the airway case must be located between the mouth and the nostrils of the living body.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to KERI A. MOSS whose telephone number is (571)272-8267. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Keri A. Moss/ Examiner, Art Unit 1797

/Maureen M. Wallenhorst/ Primary Examiner, Art Unit 1797